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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,182	10/22/2003	Gregory Allen Chapman	FL0210USCIP	6777

23906 7590 01/18/2006

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EXAMINER	
BOYKIN, TERRESSA M	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 01/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/691,182	CHAPMAN ET AL.	
	Examiner	Art Unit	
	Terressa M. Boykin	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

Applicant's arguments filed 11-4-05 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 20 are rejected under 35 U.S.C. 102(b) as being anticipated by USP 5700889 see col. 2 through 5, table 1 and table2 and claims 1, 2, 3, 5 and 6.

The reference discloses an aqueous polymerization process which yields copolymers of ***tetrafluoroethylene and hexafluoropropylene*** that have low instability as polymerized and can by used without elaborate finishing steps.

The crux of the reference is to make a TFE/HFP copolymer that is sufficiently stable to permit commercial use such as ***use on a conductor*** without a costly stabilization finishing procedure. Such copolymer should have total unstable fraction, as defined herein below, of no more than 0.2%.

The reference discloses a process for copolymerizing tetrafluoroethylene with hexafluoropropylene in an aqueous medium in the presence of water-soluble initiator and dispersing agent to obtain a partially crystalline copolymer of tetrafluoroethylene and hexafluoropropylene, which has a total unstable fraction of at least 0.3%. In accordance with the improvement in this process to reduce the total unstable fraction to

be no more than 0.2%, the copolymerizing is carded out with chain transfer agent present, and with said initiator present in an amount effective to initiate no more than half of said copolymer molecules made.

The TFE/HFP copolymer made by the polymerization process of the reference can be used for many purposes without special stabilization finishing steps. ***Finishing can be accomplished within the routine extrusion steps*** *used to convert the solids isolated from the dispersion product of polymerization into the cubes (pellets) used in commerce normally suffices.* Such pelletizing can be done with extrusion equipment known in the art, **including twin screw and single screw extruders.**

In accordance with a further improvement in this process of copolymerizing tetrafluoroethylene with hexafluoropropylene, the amount of hexafluoropropylene present is reduced so as to counteract the reduction in copolymerization rate caused by the level of chain transfer agent used, and fluorinated vinyl ether is added to the aqueous medium for copolymerization with tetrafluoroethylene and hexafluoropropylene to compensate for the loss of toughness of the copolymer caused by the reduction in hexafluoropropylene, if reduced hexafluoropropylene were the only change made to the copolymerization. The resultant partially crystalline copolymer comprises tetrafluoroethylene, hexafluoropropylene in an amount corresponding to HFPI of from 2.0 to 5.0, and from 0.2% to 4% by weight of at least one fluorinated vinyl ether.

One skilled in the art will recognize that one or more additional copolymerizable monomers can be incorporated in the TFE/HFP/FVE copolymers made by the process of this invention. **The amount of such additional monomer will be such that the resultant copolymer remains partially crystalline,** as indicated by detection of a melting endotherm by differential scanning calorimetry for resin as-polymerized, i.e., for resin that has

The TFE/HFP copolymer resin cubes prepared in Example 4 ***were used to extrude***

insulation ***onto*** *AWG 24 solid copper* ***conductor*** (20.1 mil=0.51 mm diameter), using a Nokia-Maillefer 60-mm extrusion wire line in a melt draw extrusion technique. The extruder had length/diameter ratio of 30/1 and was equipped with a conventional mixing screw provide a uniform melt. Die diameter was 0.32 inch (8.13 mm), guide tip diameter was 0.19 inch (4.83 mm), and land length was 0.75 inch (19.1 mm). Cone length was 2 inch (51 mm) and the air gap to a water quench was 33 ft (10 m). The temperature profile, other running conditions, and results are shown in Table 3 for extrusions starting at 1500 ft/min (456 m/min) and increasing to 2700 ft/min (823 m/min) in 300 ft/min (91 m/min) increments. The absence of spark failures for extrusion speeds up to 2400 ft/min (732 m/min), for thin-walled (0.18 mm) insulation of resin prepared under laboratory handling conditions, indicates that TFE/HFP copolymer made by this process.

Applicants claim is broadly presented and is anticipated by the reference. In view of the above, there appears to be no significant difference between the reference and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

Objected Claims

Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Correspondence

Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at http://www.uspto.gov/ebc/index.html or 1-866-217-9197.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is **(571-272-1700).**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tmb

Examiner Terressa Boykin

Primary Examiner